

IN THE CLAIMS:

Please amend the claims as following:

Claims 1-17 (Deleted)

Claim 18. (New) A cleaning method of a heat treatment apparatus for feeding cleaning gas in a treatment vessel and removing an unnecessary film in said treatment vessel, comprising the steps of:

preheating said cleaning gas outside said treatment vessel and
feeding said preheated cleaning gas into said treatment vessel and heating and
keeping said treatment vessel internally at a predetermined temperature,
wherein said cleaning gas is preheated up to an activation capability temperature of
said cleaning gas at said preheating step, and
wherein said cleaning gas includes ClF_3 and is preheated up to an activation
capability temperature of ClF_3 in a range of 200 to 400°C at said preheating step.

Claim 19. (New) A cleaning method of a heat treatment apparatus for feeding cleaning gas in a treatment vessel and removing an unnecessary film in said treatment vessel, comprising the steps of:

preheating said cleaning gas outside said treatment vessel, and
feeding said preheated cleaning gas into said treatment vessel and heating and
keeping said treatment vessel internally at a predetermined temperature,
wherein said cleaning gas is preheated up to a heat decomposition temperature of
said cleaning gas at said preheating step, and
wherein said cleaning gas includes ClF_3 and is preheated up to a heat decomposition
temperature of ClF_3 in a range of 300 to 1000°C at said preheating step.

Claim 20. (New) The cleaning method of a heat treatment apparatus according to
Claim 18 or 19, wherein

said treatment vessel is heated and kept as said predetermined temperature in a state that a holding tool of an object to be processed is contained in said treatment vessel.

Claim 21. (New) The cleaning method of a heat treatment apparatus according to Claim 18 or 19, wherein

said unnecessary film in said treatment vessel is a same kind of film as a film formed on a surface of an object to be processed in said treatment vessel.

Claim 22. (New) The cleaning method of a heat treatment apparatus according to Claim 18 or 19, wherein

the treatment vessel is made of quartz or Sic.